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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/025,057 | 12/18/2001 | Martin Brand | P01,0549 | 5922 |

26574 7590 06/02/2003

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EXAMINER

SHRIVASTAV, BRIJ B

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2859

DATE MAILED: 06/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

10/025,057

Applicant(s)

BRAND ET AL.

Examiner

Brij B Shrivastav

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Frese et al (US 5,198,769).

As regards to claim 1, Frese et al disclose a gradient coil system with a conductor arrangement for generating magnetic gradient field having a main field component that is collinear to the basic magnetic field and at least one accompanying field component that is perpendicular to the main field component (figures 3, numeral 5 and figure 11, numeral 5b; column 4, lines 15-28 and column 5, lines 34-45; figure 3 shows 2 coil and figure 11 shows one coil arrangement; direction of the main magnetic field being parallel to the cylinder axis as shown in figure 2). Further, Frese et al disclose a conductor arrangement for feeding electrical current (to feed the electrical current is inherent as the current flow is shown by arrows) and which is fashioned and arranged for generating a non-homogeneous magnetic field to reduce the accompanying field component without altering the main field component (figures 3 and 11; see the current flow in opposite direction in the adjoining straight parts of the conductor. In this arrangement, if the current flow is equal and opposite, the magnetic field generated due to current flow in one coil will be neutralized by the magnetic field

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generated due to current flow in the other, without altering the main magnetic field component.

As regards to claims 2, 3, 5 and 6, Frese et al further teach the magnetic field due to current flow in one section of the gradient coil is parallel to the basic magnetic field, and magnetic field due to current flow in a further section of the coil, allocated to the section of the gradient coil, is in opposite direction to the basic magnetic field (figures 3, 4, 11), these sections are parallel to each other (figures 3, 4, 11), the conductor sections coaxially enclose each other, and the conductor sections carry equal currents (figures 3,4, 11).

As regards to claim 4 and 7, Frese et al further disclose the conductor sections are arranged near each other, and the coil(s) are saddle shaped sub-coil(s) (figures 3 and 11).

As regards to claim 8 and 9, Frese et al further disclose one conductor of the coil arrangement is the shielding coil in the form of a saddle shaped sub-coil for the gradient coil (figure 3).

As regards to claim 10-13, Frese et al further disclose: a) the conductor arrangement of the gradient form a hollow cylinder having principal axis parallel to the basic magnetic field (figures 1-3); b) the conductor sections of the gradient coil arrangement and the further conductor section arrangement are at different radial distances relative to the hollow cylinder principal axis (figures 1-3); and c) the conductor section of the gradient coil and the conductor section of the further coil are parallel to the hollow cylinder principal axis (figures 1-3).

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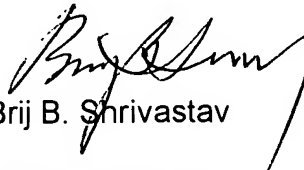
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brij B Shrivastav whose telephone number is 703-305-0649. The examiner can normally be reached on 7 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on 703-308- 3875. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-304-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0956.

Bbs

April 10, 2003


Brij B. Shrivastav
Patent Examiner